The Interventional Approach to Low Back Pain

Thomas Haley D.O. FAAPMR, DABPM
Performance Spine and Sports Physicians, P.C.
Pottstown, PA

Objectives

- The audience will learn how interventional pain procedures can be used in a diagnosis of low back pain.
- The audience will learn how interventional pain procedures can be used in the treatment of low back pain.
- The audience will learn which procedures are used for specific types of low back pain syndromes.

1996
"If pain were assessed with the same zeal as other vital signs are, it would have a much better chance of being treated properly."

James N Campbell, MD
American Pain Society

Manage Pain = Prescribe Opioids
Low Back Pain

- Low back pain is the second most common reason people visit their PCP
- 15-30% point prevalence
- 60-90% of all adults will experience back pain in their lifetime
- 55% of adults with back pain will suffer annual recurrence
- $25 Billion is spent annually on the direct treatment of low back pain

The Physiatry Approach to Disease

- Guiding principles:
  - Diagnosis is established
  - Patient function and quality of life
  - Integrated care
- Combined pharmacologic and nonpharmacologic modalities
  - Nonsurgical approach treatment and rehabilitation is preferred
- Coordinates an interdisciplinary treatment team
  - Work with PCP, specialist, physical and other therapists
The Interventional Approach to Low Back Pain

Guiding principles:
- Diagnosis is NOT established
- Patient function and quality of life
  - Disability score over pain score.
- Combined modalities
  - Medication, bracing, physical therapy, psychology.
- Interventions are PART of the diagnosis/treatment plan.
- Targeted and Image Guided
  - Minimally invasive/minimally intrusive
- Coordinates an interdisciplinary treatment team

Case #1
- 47yo female w/ right-sided low back pain.
- Rated 6/10 radiating into the buttck and posterior thigh.
- Worse standing, walking, and twisting. Relieved with sitting.
- She denies any changes in pain quantity with coughing or sneezing or bowel/bladder changes.

Case #2
- 67yo female w/ right-sided low back pain.
- Rated 6/10 radiating into the buttck and posterior thigh.
- Worse standing, walking, and twisting. Relieved with sitting.
- She denies any changes in pain quantity with coughing or sneezing or bowel/bladder changes.
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Case #3
- 87yo female w/ right-sided low back pain.
- Rated 6/10 radiating into the buttock and posterior thigh.
- Worse standing, walking, and twisting. Relieved with sitting.
- She reports significant pain with coughing and sneezing, but denies bowel/bladder changes.

Pain Generators of the Lumbar Spine

Evaluation and Treatment
Interventions used to treat pain

Radicular Pain
- Irritation of the spinal nerve caused by herniated disc and/or foraminal stenosis

- Transforaminal Epidural Steroid Injection

- Caudal Epidural Steroid Injection
Interventions used to treat pain

Radicular Pain
  - Interlaminar Epidural Steroid Injection

Facet Mediated Pain
  - Intra-articular facet joint injection (FJI)

Facet Joint Innervation
  - Medial branch of posterior primary ramus innervating facet at the same level and one below
Interventions used to treat pain

- Medial Branch Radiofrequency Ablation
- Medial branch of posterior primary ramus innervating facet at the same level and one below

Interventions used to treat pain

- Vertebral Compression Fractures

Interventions used to treat pain

- Vertebral Compression Fractures
  - First week post fracture
  - 8 weeks post fracture
Interventions used to treat pain

Spinal Stenosis

Clinical Presentation

Extension provokes NIC symptoms: Leg pain/weakness

Patients lean forward to ambulate more comfortably: "Shopping Cart" sign

Sitting (flexion) provides some: Relief of symptoms

Neurogenic Intermittent Claudication Secondary to LSS:

• Canal and foraminal space for nerve decrease in extension

• Canal and foraminal space increase in flexion
Interventions used to treat pain

- Spinal Stenosis
  - Traditional Surgery

Spinal Stenosis Traditional “Continuum of Care”

MIS Procedures

Conservative Care

Least Invasive

Most Invasive

Interventions used to treat pain

- PILD
  - Percutaneous Image Guided Lumbar Decompression

- Interspinous Spacer

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**The Interventional Physiatry Approach to Low Back Pain**

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**Facet Joint Pain**
- Positive diagnostic bilateral L5/S1 facet joint blocks (L4 and L5 MBB)
- Negative therapeutic bilateral L5/S1 intra-articular facet joint injection.
- Bilateral L4 and L5 medial branch radiofrequency ablation

**Case #2**
- 67yo female w/ right-sided low back pain.
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Case #2

Spinal Stenosis
- diagnostic bilateral L5/S1 facet joint blocks (L4 and L5 MBB)
- MRI of the lumbar Spine ordered
  - Grade 1 spondylolisthesis
  - Moderate Spinal Stenosis at L4/5
  - Ligamentum Flavum Hypertrophy
- Diagnostic L5 TFESI
- Surgical options discussed

Totalis decompression

- Surgery time: < 1 hour
- MAC with local
- Blood Loss < 5cc
- Went home the same day
- 1 week follow up
  - 2cm incision healed
  - Pain with standing 1-2/10
  - Walking the King of Prussia Mall
- 6 month phone call
  - “I’m doing great”
Case #3
A 7yo female with right-sided low back pain.
- Rated 6/10 radiating into the buttock and posterior thigh.
- Worse standing, walking, and twisting. Relieved with sitting.
- She reports significant pain with coughing and sneezing, but denies bowel/bladder changes.

Compression Fracture

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L1 Compression Fracture

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Case #3  L1 Kyphoplasty
- Surgery time: ~45 minutes
- Local
- Blood Loss < 5cc
- Done in office, discharged home
- "Wheeled in. Walked out"

Summary
- The interventional pain physicians uses targeted and image guided procedures as a tool in the multimodal approach to the treatment of low back pain.
- Sometimes, a interventional procedure confirms the diagnosis.
- Other times, a negative result may force us to search for other causes for pain.
- Interventional procedures offer patients minimally invasive alternatives to major surgery, that are often less intrusive to the lifestyle.

Thank You